



CITY OF LODI

COUNCIL COMMUNICATION

AGENDA TITLE: Purchase of Chlorine Generator for Blakely/Enze Pool

MEETING DATE: March 3, 1993

PREPARED BY: Parks and Recreation Director

RECOMMENDED ACTION: That the City Council approve purchase of a chlorine generating system for Blakely/Enze pool.

BACKGROUND INFORMATION: Several chlorine incidents in the past have resulted from the malfunction of existing equipment at the Blakely/Enze Pool. The results have been over-chlorination of the pools prior to swim events. Fortunately there were no injuries from the incidents. The Parks and Recreation Department has researched alternatives to chlorine gas for use at the Blakely/Enze Pool to reduce the risk of chlorine exposure to children, other users of the facilities, and neighboring residents.

The City Parks and Recreation Department annually submits to the County a Hazardous Materials Management Plan (HMMP) detailing chemical storage locations and inventory information. This information is required by Chapter 6.95, Section 25503.5 of the California Health and Safety Code. Section 25534 also requires handlers of acutely hazardous materials to submit a Risk Management and Prevention Program (RMPP), upon request, to the County.

With the continued use of gas chlorine, the City will soon be faced with additional reporting requirements which mandate public hearings, risk assessments, plume modeling of worst case scenarios, and risk prevention methods for reducing and/or eliminating the potential exposure to chlorine. One purpose of these requirements is to inform residents of what is "in their backyard" and how they would be impacted by an actual chlorine release.

These hazardous materials concerns have caused City staff to look at replacing the chlorine gas cylinders with a liquid chlorine generation system. This equipment uses salt to create liquid chlorine that is then injected directly into the pool water as it circulates. Using this system, low cost chlorine is generated and the need for storing this hazardous material is eliminated (see attached).

There are two vendors which manufacture this equipment: Pure Water Products, Inc. and Chemical Services Company. Their prices are competitive. City staff have visited other cities using liquid chlorination units and recommend that the City purchase the unit manufactured by Pure Water Products. Hutchins Street Square's pool is chlorinated by Pure Water Products' unit and City staff are already trained in the maintenance of the unit. The familiarity with the system will help reduce maintenance costs and training time.

APPROVED: _____

THOMAS A. PETERSON
City Manager



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Funding: \$25,000 to be used by re-prioritizing Department projects.

A handwritten signature in black ink, appearing to read "Ron Williamson", written in a cursive style.

Ron Williamson
Parks and Recreation Director

RW:svr

Prepared by Scott Essin, Parks Superintendent



1054 Shary Circle • Bldg. E • Concord CA 94518
510/827-0291

January 14, 1993

Frank Pepper
City of Lodi
125 North Stockton Street
Lodi, CA 95240

Re: Chlorine Factory chlorination system for the Enzi and Blakley swimming pools

Dear Mr. Pepper:

Thank you for considering the Chlorine Factory chlorination system for the Enzi and Blakley swimming pools in Lodi. This system is designed to provide effective chlorination for large commercial swimming pools. From common salt and fresh water, the Chlorine Factory produces, on site, pure chlorine which is immediately mixed with tap water to form a chlorinated liquid. It is safer and more economical than chlorine in any other available form.

The Chlorine Factory is the culmination of 20 years of research and development. Component parts are selected for state of the art performance and reliability. Superb efficiency is designed into this exceptional system. Projected operating cost for each C40-CES unit installed is approximately \$15.00 per month (salt and electricity). Each C40-CES unit will chlorinate approximately 100,000 gallons of pool water under normal swimming load and operational conditions. In addition, there are other important benefits of the system:

1. Easy to maintain Chlorine Factory unit(s):
 - A. Few moving parts
 - B. Components easily exchanged by pool operator
 - C. One common salt tank feeds all cells
 - D. Each cell works independently
 - E. Cells are manifolded outside of brine tank for easy access
 - F. Reverse Osmosis system pre-treats tap water: no pool water goes through unit
2. Compliance to Article 80 is cheaper and simpler since no chlorine gas is stored on premises. This alone could represent thousands of dollars.
3. One valve manual pH control (automatic pH control optional).
4. Expected increase in life of equipment.
5. Expected increase in life of fiberglass liner or pool plaster.
6. Savings on other pool chemicals expected.
7. Minimizes buying, storing or handling poisonous sterilizing chemicals.
8. Minimizes need for muriatic acid.
9. Eliminates major causes of eye, nose, ear and skin irritation.
10. Eliminates major causes of discolored clothing and green hair.
11. Luxuriously soft feeling water for more enjoyable swimming.
12. Sparkling water with outstanding beauty and clarity.
13. Savings on liability insurance possible due to the fact that no gas chlorine is stored on premises.

We recommend the following for maximum efficiency in swimming pool sanitization:

Install the Chlorine Factory system to manufacture chlorine on site. This eliminates the usual addition of large amounts of supplemental chemicals used to offset the imbalance created by all other methods of chlorine injection. Under normal conditions and swimming load each cell is capable of chlorinating approximately 25,000 gallons of water.

Our proposal is as follows:

Pure Water Products, Inc. will provide two complete Chlorine Factory systems: a 6 cell unit on the large pool and a 4 cell unit on the small pool. The installation will include the Chlorine Factory units, two electronic time-delayed relay control boxes, two one inch Mazzei injectors plumbed into filter system (or use of existing booster pump if necessary), two chlorine storage tanks with mercury float switches and super-chlorination systems, two pH tanks with manual pH control valves, automatic float controls and pH dilution systems for discharge, two reverse osmosis systems for pre-treating incoming tap water, tax and installation (except that the City of Lodi will provide backboards for mounting power supplies, tap water and electrical power to each site and an electrician during the installation to assist the Pure Water Products, Inc.'s installer). The total price = **\$24,850.08**.

If the City of Lodi desires the Chlorine Factory system to be tied into their present controllers, so that the controllers will turn on the power to the chlorinators by chlorine demand and the controllers will automatically adjust the pH, Pure Water Products, Inc. will do so at an additional charge of \$600.00 per site (\$1,200.00).

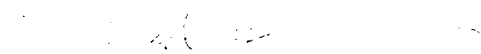
(The above price does not include liquid chlorine feed pumps. In the event that liquid chlorine feed pumps are needed, the price will have to be adjusted.)

Pure Water Products warrants the Chlorine Factory units under a five year warranty (copy enclosed). All support items (i.e. Mazzei injectors, existing controllers, booster pumps, motor operated ball valves, etc.) are warranted by their individual manufacturer and all available manufacturer's warranties and manuals will be given to the operator at the time of installation.

At the time of installation, Pure Water Products will provide training for the operator at the pool site to enable the operator to gain a comprehensive understanding of the Chlorine Factory system. It is our sincere opinion, that you will be delighted with the safety, comfort to swimmers, and water clarity that the Chlorine Factory will provide.

Sincerely,

Pure Water Products, Inc.



Daniel M. Tucker

DMT/jt
Enc.

CHLORINE FACTORY MODEL C40-CES
(Commercial Expandable System)
SPECIFICATIONS

The **Chlorine Factory** chlorine generating unit(s), is manufactured by Pure Water Products, Inc., 1054 Shary Circle, Suite C, Concord, CA. 94518, (510) 827-0291. The C40-CES model includes the following specifications:

1. A **brine tank** constructed of non-corrosive PVC. The tank has a removable lid to allow easy access to the salt compartment for the addition of salt. A single brine tank is capable of providing the brine for up to eight cells. The tank is capable of storing 200 pounds of salt and has a visual salt level indicator to alert operator when salt level is low. Unused brine water is recycled through the brine tank.
2. A **power supply** which is wall mounted and is of weather resistant molded plastic. The electronic parts are cooled by forced air. Each power supply consumes approximately 250 watts of power per hour and is capable of delivering the amount of power necessary to operate two cells. Each power supply contains a built-in 24 hour timer for controlling chlorine production time if needed.
3. **Electronic cells** which are each encompassed in an injection molded housing. The cells are manifolded together and are not submerged in liquid. The cells are easily accessible for service and repair. The cathode electrode is constructed of titanium and the anode is titanium coated with a patented platinum type coating. The two electrodes are separated by an ion selective membrane. Each model CES is manufactured as a four cell unit and will produce approximately 5 pounds of chlorine in 24 hours. Each pair of cells is powered independently. Additional cells and power supplies can be added to the system for larger chlorine demands.
4. A **Reverse osmosis system**: Only **fresh water** is used in the chlorine production process. The system includes a **reverse osmosis** unit for the purpose of removing hardness chemicals from the fresh water prior to entering the cells.
5. **Gas chlorine** generated is converted to a **chlorinated liquid** before leaving the generator.
6. Delivering the **chlorinated liquid** directly to the pool or to a storage tank to be used for super chlorination.
7. A **pH tank**: For assisting in **pH control**, the system contains a **pH tank** with a single manual valve and an automatic float control. The system has the capability (as an option) of dispensing a portion of the dilute sodium hydroxide solution to waste or to the pool for pH control.

8. A **venturi system**: The chlorine is injected into the pool's return line via a venturi system using the filter pump for the energy source (or a booster pump if desired) to drive a 1" **Mazzei Injector system**. Each injector is constructed of Kynar and has a teflon backflow check system.

9. **Approval**: The chlorine generator is **approved** by a recognized testing laboratory- the City of Los Angeles Department of Building and Safety.

10. A **storage tank** for chlorine which is constructed of PVC with a fixed flat top so that the tank is a one piece sealed container. Two tank outlets are provided: one for liquid chlorine and one for removing any vapors. A **superchlorinating** valve is provided to manually superchlorinate by removing all the liquid from the storage tank and injecting it into the pool through the venturi.

11. An **automatic shut-off**: The chlorine storage tank is equipped with an **automatic shut-off** and time-delayed relay to activate the power supply. The unit has a manual "on-off" switch to facilitate servicing.

12. A **Warranty Contract** is included in the cost of the contract. Pure Water Products, Inc. provides a 5 year warranty for Chlorine Factory unit(s) and all equipment manufactured by Pure Water Products, Inc. All support items (for example: venturies, chemical feed pumps, etc.) used in the over-all chlorination system (except those manufactured by Pure Water Products, Inc.) will be warranted by their individual manufacturers. All available warranties and manuals will be given to pool operator at the time of the installation of the Chlorine Factory system. (This warranty does not include salt, stabilizer, or any other chemicals necessary for routine maintenance to keep the pool in balance after start-up.)

13. **Training**: At the time the installation is completed, the pool operator shall be given a detailed walk-through and **training session** to enable operator to perform regular routine maintenance and to help operator gain a comprehensive understanding of the chlorination system

MARCH 2, 1993

CC 12 (a)
M E M O R A N D U M

TO: The Honorable Mayor and
Members of the City Council

FROM: City Manager

DATE: April 7, 1993

SUBJ: Chlorine Generation System - "Sole Source" Supplier

At the regular City Council meeting of Wednesday, March 17, 1993, Councilmember Davenport voiced concerns over what he interpreted to be the "sole source" purchase of a chlorination system for the swimming pool in Blakely Park. In fact, prices were obtained from the two known suppliers of this type of equipment. They were:

Pure Water Products, Inc.	\$24,850.08
Chemical Services	\$27,500.00

Parks Division staff recommended the Pure Water Products, Inc. chlorination system based on the following:

- When the Parks & Recreation Department decided to go to a chlorine generation system they contacted the only two companies that they were aware of in the United States who could provide the desired system. One system produces chlorine liquid and the other produces a gas. The two companies are Pure Water Products Inc. and Chemical Service Company.
- Staff visited various cities where the two systems were installed. Pure Water Products Inc.'s system was the lowest in price and a much better system. It has fewer moving parts, components easily exchanged by pool operators, one common salt tank that feeds all cells, the cell manifold was outside of the brine tank for easy access and there is no chlorine gas smell. This last feature means that there will not be public or worker exposure to chlorine gas.
- Hutchins Sreet Square also utilizes the Pure Water Product, Inc.'s chlorination system. Maintenance staff is familiar with the equipment and are able to work on the system when necessary.

Since prices were obtained from two companies, this acquisition should not be viewed a "sole source" purchase.

TAP:br

CCCOM754/TXTA.07A